

REMARKS

Claims 1, 3-6, 8-13, 15-20 and 23-33 are pending in the present application. Claims 1, 3-6, 8 and 33 are rejected. Claims 1, 3-6, 8-xxx and 33 are herein amended. No new matter has been presented.

Claim Rejections - 35 U.S.C. §103(a)

Claims 1, 3-6 and 8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Omatsu et al. (US 2001/0054374) in view of Antonoplos et al. (US 2002/0051733).

The Examiner notes that Omatsu et al. teaches an ink composition and detector for detecting hydrogen peroxide plasma sterilization (Abstract). In use, Omatsu et al. teaches that the ink composition is applied as a layer to a support and may further include a non-color changing layer, as noted in paragraphs [0034]-[0037].

The Examiner admits that Omatsu et al. does not disclose use of an azo dye. The Examiner concludes that it would have been obvious to use the dye of Antonoplos et al. in combination with the dye of Omatsu et al. because Omatsu teaches that dyes “other than said anthraquinone dyes... may also be used concomitantly” (paragraph [0023]) and because doing so would have provided redundancy for sterility assurance.

Claim 33 is rejected under 35 U.S.C. §103(a) as being unpatentable over Omatsu et al. in view of Barrett (US 5,955,025).

The Examiner notes that Omatsu et al. teaches an ink composition including anthraquinone dye further and a cationic surfactant of the quaternary ammonium salt type. The Examiner admits that Omatsu et al. is silent with respect to use of a methine dye instead of or with the anthraquinone dye. However, the Examiner concludes that it would have been obvious to add a cyanine dye to the indicator of Omatsu et al., because Omatsu et al. teaches that “dyes other than said anthraquinone dyes as well as pigments may also be used concomitantly”, as noted in paragraph [0023].

Applicant herein amends the claims to clarify the invention. Claim 1 is herein amended to recite a method for detecting an ozone gas. Claim 33 is herein amended to recite a method for detecting a hydrogen peroxide gas. Support for these amendments can be found on page 24, line 24 to page 25, line 11 of the English specification. Further in accordance with the above-noted amendments, Applicant herein amends the dependent claims for consistency. No new matter is presented in these amendments.

Claim 1 recites a method for detecting an ozone gas, and Claim 33 defines the invention relating to a method for detecting a hydrogen peroxide gas. Unlike the claimed invention, Omatsu et al., which was cited as the primary reference, relates to an indicator for plasma sterilization. Accordingly, the invention of Omatsu et al. belongs to a technical field completely different from that in which the method for detecting an ozone gas and the method for detecting a hydrogen peroxide gas of the present invention pertains.

Accordingly, Applicant submits that it is clear that Omatsu et al. is no longer effective as the primary reference to deny the nonobviousness of the inventions of Claims 1 and 33.

Furthermore, the nonobviousness of the inventions of Claims 1 and 33 cannot be denied even combining the teaching of Omatsu et al. with that of Antonoplos et al. or Barrett.

Claim 1 recites a method of detecting ozone gas. In contrast, the cited references Omatsu et al. relates to an indicator for plasma sterilization. Applicant notes that ozone gas is not used for plasma sterilization. Thus, claim 1 differs from Omatsu et al. in terms of the technical field. Accordingly, Omatsu et al. should not be used as cited reference for rejecting claim 1 as obvious.

Furthermore, although Omatsu et al. describes the use of a cationic surfactant, what is described is a desired effect that is obtained by the combination of a cationic surfactant and an anthraquinone dye. Applicant submits that a person skilled in the art could not have predicted whether a desired effect can be produced when a cationic surfactant is used in combination with a dye other than anthraquinone. Accordingly, claim 1 is unobvious over Omatsu et al. and Antonoplos et al.

Claim 33 recites a method for detecting hydrogen peroxide gas. The specific inclusion of methine dye as a dye is very advantageous in the detection of hydrogen peroxide gas, as is clear from the Declaration dated July 27, 2009.

Applicant notes that the bottom row (Test Example 2) of Table 1 in the Declaration shows the properties of the ink composition for detecting an oxidizing gas in response to hydrogen peroxide gas. In Table 1, Comparative Experiments 1 to 5 illustrate embodiments that do not comprise a cationic surfactant (Nikkol CA-2150) as a sensitizer that increases detection sensitivity. Even when such a sensitizer is not used, a color change (red → no color) can be observed within 10 minutes when a methine dye is used (Comparative Experiment 1). In

contrast, in Comparative Experiments 2 to 5, in which other dyes were used, either no color change occurred, or the color change took a long time.

As can be clearly seen from the results, the use of "methine dye" as a dye is very advantageous in the detection of hydrogen peroxide gas. Neither Omatsu et al. nor Barrett suggest such a finding. Accordingly, Claim 33 is unobvious over Omatsu et al. and Barrett.

In view of the aforementioned amendments and accompanying remarks, Applicant submits that the claims, as herein amended, are in condition for allowance. Applicant requests such action at an early date.

If the Examiner believes that this application is not now in condition for allowance, the Examiner is requested to contact the undersigned attorney to arrange for an interview to expedite the disposition of this case.

If this paper is not timely, Applicant petitions for an appropriate extension of time. Any fees that may be due with respect to this paper may be charged to Deposit Account No. 50-2866.

Respectfully submitted,

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